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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,335	08/01/2003	Zvi Yaniv	12179-P116US	4189
7590	08/25/2005		EXAMINER	
Winstead Sechrest & Minick P.C. P.O. Box 50784 1201 Main Street Dallas, TX 75250-0784			TSOY, ELENA	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/633,335

Applicant(s)

YANIV, ZVI

Examiner

Elena -. Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. 10/173,880.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1/04, 1/05 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 recites the limitation “the taggants” in line 1. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 8, 10, 11, 14, 16, 19, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Weiss et al (US 5990479).

Weiss et al disclose a process comprising exposing a material comprising a detectable substance (claimed chemical species) to an organo luminescent semiconductor probe comprising a semiconductor nanocrystal (claimed quantum dot) (See column 2, lines 54-67) such as silicon (See column 6, line 2) linked to an affinity molecule capable of bonding to the detectable substance and a process for using the probe to determine the presence of a detectable substance in a material (See column 2, lines 54-67; column 9, lines 37-56) using **UV light** (See column 9, line 1).

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5. Claims 1-3, 5, 8, 12, 15, 16, 19, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Daniels et al (US 20020004246).

Daniels et al disclose a process for detecting and quantifying one or more analytes (claimed chemical species) in a biological or chemical samples (See P16) comprising exposing a sample comprising a detectable substance to a an organo luminescent semiconductor probe comprising quantum dot (See P81) such as silicon (See P79, last line) using **UV light** (See P82, last line) and a **spectrometer** (See P170).

6. Claims 1-6, 8, 10, 11, 14, 16, 17, 19, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Chee et al (US 6,544,732).

Chee et al disclose a process for detecting analytes in a biological or chemical samples such as **toxins** (See column 25, lines 47-52) comprising exposing a sample comprising a detectable substance to a semiconductor probe comprising quantum dot (See column 3, lines 54-55) using **UV light** (See column 14, line 59).

7. Claims 1-6, 8, 10, 11, 14, 16, 17, 19, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Barbera-Guillem et al (US 6,2617,79).

Barbera-Guillem et al disclose a process for detecting analytes in a biological or chemical samples such as **toxins** (See column 3, lines 52-65) comprising exposing a sample comprising a detectable substance (See column 22, lines 1-67) to a semiconductor probe comprising quantum dot (See column 8, lines 33-47) using **UV light** (See column 21, line 58).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al/Daniels et al in view of Chee et al/Barbera-Guillem et al.

Weiss et al/ Daniels et al are applied for the same reasons as above. Weiss et al/ Daniels et al fails to teach that analytes are toxins.

Chee et al/Barbera-Guillem et al are applied for the same reasons as above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the process of Weiss et al/ Daniels et al for detecting toxins since Chee et al/Barbera-Guillem et al teach that quantum dots can be used for detecting toxins.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al in view of Harris et al (US 20040009911).

Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al are applied for the same reasons as above. Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al fail to teach that adsorption of chemical species is reversible process.

Harris et al teach that quantum dots can be used in reversible processes (See P8, 16, 156, 161).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used quantum dots of Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al in reversible processes, as taught by Harris et al.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al in view of West et al (US 6,530,944).

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Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al are applied for the same reasons as above. Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al fail to teach that the nanoparticles are present in aerosol.

West et al teach that the nanoparticles can be delivered in aerosol (See column 16, lines 5-8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used aerosol form to deliver nanoparticles in Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al since West et al teach that the nanoparticles can be delivered in aerosol.

12. Claims 12, 13, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al/Chee et al/Barbera-Guillem et al in view of Daniels et al.

Weiss et al/Chee et al/Barbera-Guillem et al are applied for the same reasons as above. Weiss et al/Chee et al/Barbera-Guillem et al fail to teach that fail to teach that detecting and analyzing the altered photoluminescence properties comprises utilizing a spectrometer (Claim 12) or optical filter (Claim 13); photoluminescence properties can be for quantitating analytes (Claim 15).

Daniels et al, as applied above, teach that a spectrometer or filters can used for detecting photoluminescence properties (See P170) and photoluminescence properties can be for quantitating analytes (See P16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized a spectrometer or optical filter in Weiss et al/Chee et al/Barbera-Guillem et al for detecting and analyzing the altered photoluminescence properties since Daniels et al teach that a spectrometer or filters can used for detecting photoluminescence properties.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized detecting and analyzing the altered photoluminescence properties in Weiss et al/Chee et al/Barbera-Guillem et al for quantitating analytes since Daniels et al teach that photoluminescence properties can be for quantitating analytes.

13. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al in view of Ravkin et al (US 6,908,737).

Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al are applied for the same reasons as above. Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al fail to teach that fail to teach that detecting and analyzing the altered photoluminescence properties comprises utilizing an optical filter.

Ravkin et al teach that fluorescent emissions are usually distinguished by optically filtering with band pass, or combination of long and short pass, filters (See column 28, lines 18-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized optical filter in Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al for detecting and analyzing the altered photoluminescence properties since Ravkin et al teach that fluorescent emissions are usually distinguished by optically filtering with band pass, or combination of long and short pass, filters.

14. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al in view of McGrew (US 6692031).

Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al are applied for the same reasons as above. Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al fail to teach that the quantum dots can be used as taggants in anti-counterfeiting applications.

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McGrew teaches that quantum dots can be used as fluorescent taggants in security inks (See Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the quantum dots Weiss et al/Daniels et al/Chee et al/Barbera-Guillem et al as taggants in anti-counterfeiting applications since McGrew teaches that quantum dots can be used as fluorescent taggants in security inks.

***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy  
Primary Examiner  
Art Unit 1762

ELENA TSOY  
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August 16, 2005